#### **ENVIRONMENTAL CHECKLIST**

Purpose of checklist:

2413593

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

#### A. BACKGROUND

1. Name of proposed project, if applicable:

The 25 road construction project, Phase 2, is located in Sections 20, 21, and 28, Township 16 North, Range 7 East, W.M. .

2. Name of applicant:

Hancock Forest Management, Inc. care of HTVII QRS Trust (Pinchot)

3. Address and phone number of applicant and contact person:

Stephan A. Dillon, PE 31716 Camp 1 Road Orting, WA 98360

4. Date checklist prepared:

#### 4/08/09

5. Agency requesting checklist.

Department of Natural Resources - South Puget Region

6. Proposed timing or schedule (including phasing, if applicable):

This proposal will be completed in two phases. The first phase, permitted and approved two FPA's, #2412781 and #2412779. Phase 1 will be completed in 2009-2010. The second phase is to be completed in 2010-2011. Operations will be from May until November of any given year.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

The 25 Road reconstruction project will be accomplished in two phases. The first phase, permitted and approved FPA #2412781, will be completed in 2009-2010. Phase 2 extends 2.13 miles through Sections 20, 21 and 28 (i.e., from Station 47+50 to Station 160+26). Hancock Forest Management would like to obtain an approved FPA in 2009 and will likely begin Phase 2 road construction during the summer of 2010-2011.

In the future, harvest and road maintenance will occur with associated timber and implementing our road maintenance and abandonment plan in the area accessed by the 25 road proposal. The proposed use of the road is for long term forestry uses, industrial timber haul and access into approximately 1200 acres of land locked timber access.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. All documents can be obtained from obtained at region above 48

Included with the forest practice application is a geotechnical report for the 25 Road Construction project that has been prepared for Phase 2 of the 25 Road construction submittal. The geotechnical report was prepared by Mr. John LaManna, L.E.G., of LaManna Geosciences, and Mr. E. Steven Toth, L.E.G., of Consulting Geomorphologists.

Additionally, Mr. Toth prepared an environmental report pertaining to the geomorphology and channel migration potential of the Upper Puyallup River including but not limited to the areas proposed in Phase 1 and Phase 2. The report in general sites geology, soils, lahar and debris flow hazard zones, the flood history of the area and the channel characteristics associated with the river system. The report covers the analysis of the various geomorphic channel reaches as well as the resulting channel migration zone delineations. See geomorphic and channel migration report for more information.

A document was prepared by Mr. Mitch Hauserrman of Pacific Ridge Consulting, LLC, identifying the various alternate routes for access into the Upper Puyallup basin road system and why the proposed route is the preferred alternative. See enclosed document for details.

Mark Stevens with Steven & Associates corresponded with Kristie Miller, Cowlitz Valley District Ranger, USFS, in late April, early May, 2006 in regards to possible access via adjacent USFS properties (primary interest Section 32-T16N-R7E, WM). In summary, the roads in closest proximity have been decommissioned and would not be allowed to be "rebuilt in the near future", or the area is "designated as Late Successional Reserve" and "not likely a road would be permitted", or the area is wilderness (Glacier View Wilderness).

HFM solicited soils engineering and slope reinforcement support from PanGeo, Inc. which provided recommendations for reinforcing slopes between stations 65+00 to 73+80. PanGeo's

recommendations suggested implementing soil nails as mitigation when constructing roads in steep cutslope situations associated with precipitous mountain slopes. See supporting letter

Historical Research and Associates (HRA) provided a Cultural Resources Assessment congruent with the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Protection Management Plan (CRPMP) and the Cultural Resource and Plan (CRPMP) and the Cultural Resource archaeologists conducted a review of environmental, geological, ethnographic, and historical information prior to fieldwork for the proposed Hancock Road 25 Relocation Project, as well as an archival and literature review of past cultural resource inventories and recorded sites. HRA determined through this review that there was at least a moderate probability for precontact. ethnographic, and/or historic logging-related archaeological materials within portions of the APE displaying lower slope grades, especially towards its southeastern end. See enclosed cultural resource assessment for more detail.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No.

10. List any government approvals or permits that will be needed for your proposal, if known.

Forest Practices Permit (FPA) issued from the Department of Natural Resources and a Hydraulics Permit (HPA) issued from the Washington Department of Fish and Wildlife.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The Phase 2 25 Road construction project, consists of 11,246 feet of relocation of the road upslope from its previous location in the Puyallup River valley bottom. The proposed road location is in moderate to steep mountainous terrain. Phase 2 will extend from station 47+50 to 160+26 from the eastern end of Section 20 through Section 28. Within Phase 2, there is a proposed 2.13 miles of construction which equates to around 15.5 acres of right-of-way harvest.

Mark Stevens and Mitch Hausserman evaluated the possibility of constructing a bridge across the S. Fork Puyallup River from the NE as and alternate access. Topographic maps and aerial photos were used to identify possible bridge locations. Field reconnaissance was made of the most promising sites. No suitable site was found due to the span required to establish approaches outside the erosive potential of the river. In summary, all evaluations of the access alternatives have resulted in recommendations to reestablish the 25 Road by reconstructing limited sections and constructing new road sections in other areas. See report for more detail.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The location of the proposed project Phase 2 is located in portions of Sections 20, 21, and 28, Township 16 North, Range 7 East, W.M. The proposed construction of Phase 2 of the 25 Road begins approximately one-third mile upstream from the confluence of the North and South Forks of the Puyallup River. The 25 Road is located along the south side of the South Fork Puyallup River valley. The project area ends a few hundred feet north of the Section 33 boundary line and our ownership is adjacent to the Mount Rainier National Park. See submitted maps and geologic report for more information.

#### B. ENVIRONMENTAL ELEMENTS

- 1. Earth
- a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other . . . . .

The project area is near the western boundary of Mount Rainier National Park in steep, rugged forest lands. The valley bottom consists of relatively flat slopes with a number of terrace features and debris flow fans that provide topographic relief. The broad valley is confined by steep side slopes that extend for several thousand feet upslope. Bedrock outcrops are common and steep drainages dissect the rocky terrain.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slope is near vertical due to rock outcrops within the proposed site. See geologic report for more information.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Assumptions were based off of geologic information for the area based on 1:100,000 scale mapping and compilation by the Washington Department of Natural Resources. Geologic mapping of the area indicates that the valley floor deposits are primarily Quaternary alluvium (Schasse 1987). Schasse (1987) indicates that the downstream reaches within Sections 17, 20 and 21 are flanked by sedimentary rocks of the Puget Group and isolated alpine glacial outwash deposits from the Evans Creek drift. The Puget Group consists of massive fluvatile sandstone, siltstone, claystone, and coal. Evans Creek drift consists of undifferentiated alpine glacial drift consisting of till, moraine and outwash deposits. The till is bouldery, loosely compacted, and complexly interbedded with poorly sorted silt, sand, and gravel, oxidized yellowish-brown 0.6 to 0.9 meters deep. Field review of the mapped alpine glacial drift indicated that the origin of the deposit was likely not a glacier, but rather a series of volcanic mudflows. While the cobbles near the surface generally lack weathered rinds, the deposits are strongly consolidated and unstratified, unlike glacial outwash deposits. The heterogeneous mix of sub-angular to sub-rounded rocks from the Mount Rainier edifice in a matrix of dominantly sub-angular sand, ash, and clayey silt is consistent with their origin as a mudflow deposit.

The upstream reaches in Section 28 flow through steep valley walls consisting of hydrothermally altered volcanic rocks of the Ohanapecosh Formation and Andesite from the Mount Rainier volcano. The Ohanapecosh Formation is characterized by dacitic to basaltic-andesitic lithic breccia, tuff, tuff-breccia and volcaniclastic rocks. The breccias are typically unstratified, crudely graded, or very thickly bedded and poorly sorted. Sandstone and ash

commonly form well-bedded, graded, and parallel laminated sequences (Schasse 1987). The andesite from Mount Rainier is chiefly gray porphorytic hypersthene-augite and minor olivine andesite formed in the middle to late Pleistocene from thick intracanyon lava flows and associated mudflows near the base of the volcano.

The soil in the valley bottom along most of the Puyallup River is mapped as Typic Udifluvents on 0 to 8 percent slopes. This soil forms from recent alluvium in low stream terraces and drainageways and is prone to occasional brief flooding. The soil depth is generally greater than 60 inches.

North of the Puyallup River much of the valley bottom consists of Beljica Variant on 0 to 30 percent slopes. This well-drained soil is derived from volcanic ash and cinders over block-and-ash flows over dense lahar material. Soil depths are generally 40 to 60 inches to a dense substratum. See geologic report for more information.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

The Washington State Department of Natural Resources produces a generalized slope stability map based upon calibrated slope stability models that use digital elevation models (DEMs) to generate slope and curvature information (Montgomery and Dietrich 1994; Shaw and Johnson 1995). The model divides slope stability into low, medium, and high risk. The majority of the construction area is mapped in a higher risk category. A prominent portion of the mass wasting originated from side cast constructed roads that were built across bedrock hollows and inner gorges in the 1970s. Many of the road-related slides were probably caused by side-cast failures. Some mass wasting also occurred in convergent landforms (bedrock hollows and inner gorges) that were clear-cut harvested. Many debris flows delivered sediment and debris to fans. Some delivered directly to the Puyallup River. Harvest of the upper slopes was complete by the time the 1978 photographs were taken. Trees were yarded up hill with minimum deflection during the 1970s harvest. The lack of deflection resulted in heavily disturbed landforms and soils coupled with side cast road construction on the upper reaches of the drainages resulted in localized mass wasting.

It is apparent from the 1958 air photos that the 25 Road was originally constructed within the active floodplain of the Puyallup River at many locations. Predictably, these locations have been washed out by the river, often on more than one occasion.

The 1978 photographs also show extensive mass wasting from the 1977 floods. Most of the mass wasting originated from side cast constructed roads that were built across bedrock hollows and inner gorges in the 1970s.

After 1978, mass wasting continued on the upper slopes, but at a diminishing rate, although new debris flows also initiated during the 1996 floods. The November 2006 flood did not cause any new debris flows from the tributary streams.

Throughout this photo history, most of the mass wasting activity that took place on the lower slopes was caused by debris flows that originated in the upper slopes. The proposed road location will cross historically active debris flow channels and debris fans on the lower slopes. The sections below describe mitigations that have been taken to reduce or eliminate damage to the road and the environment from mass wasting and erosion potentially exacerbated by the proposed project. Refer to the geotechnical report included for more detail.

Other prominent features that exist adjacent to the proposal are active and inactive flood plains established by the Puyallup River. Due to intense storm events and the relationship with the glaciers on Mt. Rainier, there are highly active channel migration zones distributed along the

Puyallup River banks within the road proposal. Refer to the geomorphology and channel migration report prepared by Mr. E. Steven Toth.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Fill quantities on stream crossings will average around 400 CY of material per crossing depending on the crossing. Phase 2 is estimated to have around 37 crossings throughout the proposed location. Approximately there will be around 15,000 CY associated with fill sources mostly coming from generated endhaul and imported shot rock. There are two specific borrow source areas located at stations 99+00 and 104+00. They are located adjacent to the proposed road location. We estimate we shall extract up to 10,000 CY from both sites combined.

There is approximately 31.79 stations of endhaul and 29.89 stations of full bench road construction. We shall implement a no-sidecast prescription in areas where there is full bench and endhaul construction.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Possibly, erosion could occur if proper mitigation is not implemented. Additionally, erosion could occur if the correct construction of cutslopes and fillslopes are not implemented. See geotech report for more detail.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

#### None.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Below are the five prominent road design templates used when crossing various types of streams. The templates are designed to minimize impacts to tributary streams flowing into the South Fork of the Puyallup River and ultimately reducing the impacts to the Puyallup River.

# **Template 1** – Low to moderate slopes – Low energy streams

Otherwise called the basic fill prism, Template 1 is built with common fill with no armor on fill slopes. The template is designed for easy construction purposes on low to moderate slopes, lower fill heights and designed for streams with lower energies or erosive forces. The fill slopes are built at 1 5:1 slopes on the upper and lower fill

slopes.

Template 2 – Streams with moderate energy and alluvial/debris fans.

Template 2 fill prism is built with common fill but rip rapping (3-4' rock size) the toes of the upper and lower fill slopes for strength and stability. The fill slopes above the rip rap toes will have armor (pit run/quarry spalls) placed from the top of the toe to the shoulders of road. The road grade will dip (sag) downward as it approaches the fan. Consequently, the road will have upward gradients where it leaves the fan. This upward gradient will prevent floodwater and debris flows from using the road as a conveyance to flow off the fan. Channels (dry and flowing) will have culverts constructed according to Template 2. The road prism will be armored where the road crosses channels on the fan. This will prevent or minimize damage from small and medium sized precipitation and debris flow events and possibly limit damage from large events. The fill prism will be "keyed" into channel sides near the ends of the culvert with riprap. This will make the fill prism harder than the surrounding fan deposit and reduce the likelihood it will be scoured or eroded by flood water. The rip rap toes will be placed close to 1:1 slope and the armored slopes will be placed at 1.5:1.

**Template 3** - Streams with moderate energy and alluvial/debris fans with higher road fills.

Template 3 fill prism is built with common fill but rip rapping (3-4' rock size) from the toes of the upper and lower fill slopes to the shoulders of the road for strength and stability. The rock fill prism will be "keyed" into channel sides near the ends of the culvert with riprap. This will make the fill prism harder than the surrounding fan deposit and reduce the likelihood it will be scoured or eroded by flood water. Fill slopes will be built to a 1:1 slope.

**Template 4** – Streams with moderate energy with probability of mass wasting (Does not apply for Phase 2).

Template 4 fill prism is built with shot or ripped rock (1 foot minus) for porosity in the event the culvert is plugged. The toes of the fills will be heavily rip rapped with (3-4' rock) on the upper and lower fill slopes for strength and stability. The road prism will be armored where the road crosses channels on the fan. This will prevent or minimize damage from small and medium sized precipitation and debris flow events and possibly limit damage from large events. The fill prism will be "keyed" into channel sides near the ends of the culvert with riprap. This will make the fill prism harder than the surrounding fan deposit and reduce the likelihood it will be scoured or eroded by flood water. Typically Template 4 is used with smaller fill heights on potentially debris charged streams. Fill slopes both upper and lower will have a 1.5:1 slope.

**Template 5** – Streams within Inner Gorge landforms with high energy and probability of mass wasting.

Template 5 fill prism will consist of boulder size rip rap fill material (3-4' rock size) from the toes of the upper and lower fill slopes to the shoulders of the road and throughout the fill for strength and stability. Rock fill prism will be "keyed" into channel sides near the ends of the culvert with riprap. This will make the fill prism harder than the surrounding fan deposit and reduce the likelihood it will be scoured or eroded by flood water. The road prism will be armored to resist erosive and scour forces from small and medium events and minimize damage from large events. Template 5 culverts will have mitered inlets to improve hydraulic capacity in case of partial blockage. A trash rack will be considered to "launch" debris over the fill prism with the intention of minimizing damage to the road prism. Approaches will grade downward to cross debris flow channels. Culverts will be oversized relative to the anticipated storm event discharges. There will be a 3:1 (h:v) upstream fill slope to facilitate launching of debris flows across the road while minimizing the potential for the culvert barrel to fill with debris. The lower fill slope will be built to 1:1 slope to minimize foot print within stream.

From station 65+00 to 73+80, this area has steep slopes and potentially highly variable subsurface conditions. PanGeo, Inc, a geotechnical engineering firm, suggested we employ soil nails for stabilizing these variable subsurfaces. Soil nails will be used to reinforce a slope if the slope does not have the ability to stand on its own, using standard forest road construction techniques. Soil nails are used in lieu of retaining walls in cut situations. The soil/rock must have an adequate standup time to stand in vertical cut for at least one to two days while the nails are installed.

HFM will have a qualified engineer on site when construction between Stations 65+00 and 73+80 takes place. The slope will be excavated from the top down. Each excavation cut is likely to be 5 to 6-ft deep. After each cut, the engineer will observe subsurface conditions and make a recommendation regarding if, and where, soil nails will be used. The engineer will also make design recommendations regarding the installation of the soil nails and the general design of the final reinforced slope.

The proposed road location will allow access into road networks that are currently inaccessible. The ability to have access will give us the opportunity to implement RMAP obligations and processes. Work within water crossings will have armored fillslopes, sediment basins and traps, grass seed and distributed straw on exposed waste site areas and exposed soils.

# Mitigation and maintenance for Road Templates:

# Debris Fan landforms

Culverts will be oversized 30% relative to the 100-year recurrence interval storm discharge to pass rain-on-snow, sediment- and debris-laden flows. This should reduce the frequency they become blocked. All channels located on a fan will receive a culvert sized at least large enough to convey the runoff from the entire fan basin. This will provide redundancy for the flow passage for the entire basin. Culverts will be inspected annually and after major storm events and will be maintained and repaired in a timely manner.

The road will grade upwards as it leaves the margins of the fan. This upward gradient will prevent floodwater and debris flows from using the road as a conveyance path. Channels (dry and flowing) will have culverts constructed according to Template 2 or Template 5 (refer to road design templates).

The road prism will be armored where the road crosses channels on the fan. This will prevent or minimize damage from small and medium sized flood and debris flow events and possibly limit damage from large events. The fill prism will be "keyed" into channel sides near the ends of the culvert with riprap. This will make the fill prism harder than the surrounding fan deposit and reduce the likelihood it will be scoured or eroded by flood water.

The road prism will be inspected annually and after unusual storm events. The road prism will be maintained and repaired in a timely manner.

Culverts will be inspected annually and after unusual storm events. If incision causes a culvert to "shotgun" (become excessively elevated over the stream bed), the downcutting will be arrested by using the most cost-effective method, such as flumes with energy dissipating rock or armoring the slope at the outlet to prevent downcutting.

The amount of delivered sediment will be minimized because the road prism will be constructed of boulders for Template 5 drainage structures, or armored with rock for Template 2 structures. The road and culverts will be inspected regularly and maintained and repaired when damaged. Fills spanning stream crossings and all subgrade on fans will be compacted in lifts with a 10-ton vibratory compactor. This will further harden the road prism and therefore limit erosion in the event the prism is breached or overtopped by flow.

The road alignment will be sub-excavated to remove unsuitable base soil and debris. A geotextile fabric will be placed between subgrade and clean road ballast to decrease fines (clay and silt) from "pumping" up to the road surface.

Culverts will be placed in "dry" channels and will be of the same size as the culverts in the active channels. When the channel migrates, it is likely to flow into one of the existing dry channels with an appropriately sized culvert.

The road will have an inboard ditch that will convey flow to the nearest culvert. Therefore, if a culvert plugs, the ditches will route water to adjacent culverts, which will perform relief function.

The soil will be over-excavated and woody debris removed before constructing the road prism.

The road will have ditches of a minimum of 2 feet in depth. The ditches will convey flow to the nearest culvert. Therefore, if a culvert plugs, the ditches will convey water to adjacent culverts, which will perform a relief function.

# Inner Gorge Landforms

The road prism will be armored and sloped to resist scour and erosion from small and

medium size events. Large events may damage road prism. In the event a large flood event does cause damage, the road will be repaired and maintained in a timely manner.

Road prism will be armored and sloped to resist scour and erosion from small- and medium-sized events. The 3:1 (h:v) upstream fill slope will facilitate launching of debris flows over and across the drainage structure rather than displacing it. Fill will consist of angular, boulder-size riprap throughout, which will resist erosive forces. Active debris flow channels will have Template 5 drainage structures, which are robust. Fill prism will be keyed into channel bed and banks with angular boulders.

Landowner and manager understand large events may damage road prism and are prepared to repair and maintain drainage structures.

Road will be repaired and maintained in a timely manner.

Culverts will be oversized 30% relative to the 100-year recurrence interval storm discharge to pass rain-on-snow, sediment- and debris-laden flows.

In active debris flow channels, culverts will have mitered inlets to improve hydraulic capacity in case of partial blockage. A trash rack will be installed to minimize blocking. The 3:1 (h:v) upstream fill slope will facilitate launching of debris flows over and across the road.

Culverts will be inspected annually and after major storm events and will be maintained and repaired in a timely manner.

Approaches will grade upward away from channels to minimize potential to "pirate" flow away from channels.

The amount of sediment delivered will be minimized because the road prism is hardened, and road and culverts will be inspected regularly and maintained and repaired in a timely manner. Fill will consist mainly of boulder-sized material with low fines content, so any delivered material will contain mostly large particles (gravel and larger), which has little negative impact to fish habitat.

Side-cast will not be placed within inner gorges. All material excavated from inner gorges will be end hauled to a stable location. Inner gorges will be crossed using either Template 3 or 5. Template 3 is constructed with shallow lifts of common fill, carefully compacted. The common fill core will be armored with large boulders keyed into the channel bed and the adjacent slopes. Template 5 is a rock fill constructed with large boulders and keyed into the channel bed and adjacent slopes.

Side-cast will not be placed on slopes adjacent to inner gorges. On slopes adjacent to inner gorges, all excavated soil, other than boulders found or manufactured (which may be used to construct a Template 3 or 5 channel crossing) will be end hauled to stable locations. In general, inner gorge crossings will consist of compact fills with relatively small footprints.

Basic BMP's (Best Management Practices) for erosion control

The proposed measures that will be implemented will include:

- Oversize pipes on streams to convey not only large runoff events but small quantities of large woody debris.
- Erosion control methods (BMP's) such as silt fencing traps, sediment ponds, hay bales and additional cross drain culverts to reduce runoff.
- The designed road templates are specifically used to either resist scour and damage or maintain proper drainage within its own basin (reduce water pirating potentials).
- In preparation for heavy rainfall, general maintenance will be performed to assure that the road system is capable of withstanding large storm events. Generally this is a routine part of the annual road maintenance plan for the property.
- Maps identifying critical road segments and stream crossings will be patrolled during and after major rain events. During and after major storm events, critical road segments and stream crossings will be patrolled and necessary maintenance work will be performed to keep culverts and ditches operating properly.
- The ability to have access will give us the opportunity to implement RMAP obligations and road maintenance processes in areas that are currently inaccessible.
- Exposed cut and fill slopes will be seeded with erosion resistant vegetation.
- Where a relief culvert outfall drains onto unprotected erodible material, a rock apron, flume, down spout, and/or rock energy dissipater will be installed to prevent erosion below the outfall.
- Silt bearing surface runoff will be prevented from entering Typed waters. This will be achieved by adding relief culverts, clean hard rock, ditch filters, or silt ponds. Drainage structures will be inspected and cleaned routinely as needed.
- Rock armored headwalls at culvert inlets will be constructed and maintained to the road shoulder level with material that will resist erosion.
- Relief culverts will be placed so that ditch water is routed to the forest floor in a stable location and energy dissipaters will be added as needed to prevent erosion.
- Energy dissipaters and sediment traps will be placed at the out slope or downspout end to prevent erosion or trap suspended sediment.
- HFM will utilize the RMAP and SFI storm monitoring system to capture and prevent storm related issues.

# 2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Insignificant amounts of road dust from hauling ballast or crew traffic could occur during Spring thru Fall months will have no effect on local air quality. Hours would typically be 6:00 am to 6:00 pm. Monday thru Friday unless otherwise specified

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

### None.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Application of water on road surface if dust is at unmanageable state.

# 3. Water

#### a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes, the South Fork of the Puyallup River and it's tributaries. All streams flow into the Puyallup River.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes. Below is a summary of Phase 2 stream crossings and the methodology that was used to derive the culvert sizing. Additionally, each stream is labeled with a road construction template for simplicity and effectiveness for all parties understanding and constructing the templates. See attached plans associated with the stream crossings.

RECOMMENDED

# **Culvert Sizing Chart**

				Basin Size		Q100	ROS (+30%)	Q Design	MIN. CMP Dia.	SIZE (in)		
Point	Station	H2O	Sq. Ft.	Acres	Sq Miles	(cfs)	(cfs)	(cfs)	(in)	()	LANDFORM	TEMPLATE
623	53+23 77	ND	348480	8	0.013	8.1	2 4	11	52	24		1
632	55+06 16	DR								18		1
637	55+92.49	Np	3491648.03	80	0.125	59.0	17.7	77	52	84	INNER GORGE	5
638C	56+89 31	DR								18		1
647+18'	61+38 75	DR								18		1
656+15'	63+67 11	DR								18		1
n80	72+53-17	ND								24	YARDING RUT	
082	73+21 50	ND								24	YARDING RUT INNER	
689	75 + 53 95	Ns	2095447 38	48	0.075	38 ()	1 ] -\$	49	43	48	GORGE	5
7(10)	80+11-85	DR								18		1
704	83+60-33	Np	6816739 51	156	0.245	104 9	31.5	116	65	81"X59"		
707	84+44-21	Np	6816739 51	156	0.245	104 9	31.5	136	65	81"X59"	FAN	5
711	85+54 91	Ns	6816739 51	156	0 245	104 9	31.5	136	65	81"X59"		
715	86+34-40	DR								18		9
730	90+25-13	DR								18		:
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*\$3.54	18 - ^2 14	20	275922 (7	*	0.553	es <	<u> </u>	≼	70	u/3	LAN	

735+6"	101+12.84	ND	3365367.24	77	0.121	57.1	171	74	51	60		
737+33'	102+35.98	ND	3365367.24	77	0 121	57 1	17 1	74	51	60	FAN	2
741+151	104+19 88	ND	3365368.24	77	0.121	57.1	17.1	74	51	60		
750-12'	108+91.12	DR								36	FAN	2
751	110+74 89	ND	1138190.99	26	0.041	22 5	6 7	29	35	36	TAIN	2
754-20	113+13.59	DR	2884049.82	66	0.103	50.0	15.0	65	48	48	FAN	,
757	116+69 47	DR								48		-

DR=Ditch Relief

ND=Untyped channel (i.e. seasonal flow that does not deliver to typed water, or unchanneled swales)

				Basin Size						RECOMMENDED		
Point	Station	Н2О	Sq. Ft.	Acres	Sq Miles	Q100 (cfs)	ROS (+30%) (cfs)	Q Design (cfs)	MIN. CMP Dia. (in)	SIZE (in)	FAN OR DEBRIS FLOW	TEMPLATE
761+131	120+05.34	ND	349660.85	8	0.013	8.1	2.4	11	23	24	FAN	2
766+9'	123+13.81	DR								18		1
772	125+41.40	DR								18		1
781	131+28.34	DR								18		1
789	137+85.01	Np	1264950.4	29	0.045	24.6	7.4	32	36	48		5
792-9	138+70.22	DR								18		1
800+41	143+70.72	Np	1611233.98	37	0.058	30.3	9.1	39	39	60	INNER GORGE	5
808	146+91,55	Np	328718.63	8	0.012	7.7	2.3	10	23	48	INNER GORGE	5
816	148+61.83	Np	7200256.15	165	0.258	110.0	33.0	143	67	120	FAN	5
823	151+00.40	Np	135063.77	3	0.005	3.6	1 1	5	17	36		5
827+20'	152+69.51	ND								18		1
832-42	156+75.41	DR								18		I
834-19	158+46 09	Ns								24		1

DR=Ditch Relief

ND=Untyped channel (i.e. seasonal flow that does not deliver to typed water, or unchanneled swales)

Within Phase 2, there will be approximately 15.5 acres +/- of mostly evergreen trees and a small amount of hardwood trees removed from the proposed right-of-way. The following riparian management zone impacts are included within the 15.5 acres for both the "S" and "F" buffers:

Phase 2 Acres of "S" buffer	Acres of R/W within "S" buffer				
Core Zone = 12.45 ac	0.00 ac				
Inner Zone = 13.63 ac	0.00 ac				
Outer Zone = 8.61 ac	0.00 ac				
Total RMZ acres = 34.69 ac	0.00 ac				
Conclusion:					

No acres impacted.

Phase 2Acres of "F" buffer	Acres of R/W within "F" buffer
Core Zone = 7.09 ac	0.00 ac
Inner Zone = 7.70 ac	0.27 ac
Outer Zone = 4.55 ac	0.34 ac

Total RMZ acres = 19.34 ac

0.61 ac

Conclusion:

Acres impacted - 0.61

Acres not impacted – 18.73

Though we are proposing a road that is in segmented parts of a stream parallel road (Phase 1 and Phase 2), the proposed location is preferred over other alternatives due to extreme risk in areas prone to landslide and excessively steep slopes. In addition, the alternate routes were avoided due to areas inundated in flood regions within the valley bottoms, improbable river crossings and adjacent land managers not willing to allow access.

We will be working within 200' of the water bodies identified on the "Culvert Sizing Chart" spreadsheet included with application. We shall place the appropriate sized culvert based on 100 year flood specifications plus 30% for rain-on-snow events passage of some woody debris.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Refer to SEPA section B) 1. e.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

If there is water present at time of construction, we will divert water around construction sites to reduce and minimize sediment entry into waters. We will follow all HPA provisions.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No

#### b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

Does not apply

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

# Does not apply

- c. Water runoff (including stormwater):
  - 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

No, there will be adequate road ditches and cross drains to disperse runoff to forest floor, silt traps, and hay bales if needed.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Yes if adequate road ditches and cross drains to disperse runoff to forest floor, silt traps, and hay bales and other mitigation devices are not implemented.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

The proposed measures that will be implemented will include:

- Oversize pipes on streams to convey not only large runoff events but small quantities of large woody debris.
- Erosion control methods (BMP's) such as silt fencing traps, sediment ponds, hay bales and additional cross drain culverts to reduce runoff.
- The designed road templates are specifically used to either resist scour and damage or maintain proper drainage within its own basin (reduce water pirating potentials).
- In preparation for heavy rainfall, general maintenance will be performed to assure that
  the road system is capable of withstanding large storm events. Generally this is a
  routine part of the annual road maintenance plan for the property.
- Maps identifying critical road segments and stream crossings will be patrolled during and after major rain events. During and after major storm events, critical road segments and stream crossings will be patrolled and necessary maintenance work will be performed to keep culverts and ditches operating properly.
- The ability to have access will give us the opportunity to implement RMAP obligations and road maintenance processes in areas that are currently inaccessible.
- Exposed cut and fill slopes will be seeded with erosion resistant vegetation.
- Where a relief culvert outfall drains onto unprotected erodible material, a rock apron, flume, down spout, and/or rock energy dissipater will be installed to prevent erosion below the outfall.

- Silt bearing surface runoff will be prevented from entering Typed waters. This will be achieved by adding relief culverts, clean hard rock, ditch filters, or silt ponds. Drainage structures will be inspected and cleaned routinely as needed.
- Rock armored headwalls at culvert inlets will be constructed and maintained to the road shoulder level with material that will resist erosion.
- Relief culverts will be placed so that ditch water is routed to the forest floor in a stable location and energy dissipaters will be added as needed to prevent erosion.
- Energy dissipaters and sediment traps will be placed at the out slope or downspout end to prevent erosion or trap suspended sediment.
- HFM will utilize the RMAP and SFI storm monitoring system to capture and prevent storm related issues.
- Restoration work in the Type "F" stream. See SEPA section B) 5. d.

#### 4. Plants

a.	Check or circle types of vegetation found on the site:
	X deciduous tree: alder, maple, aspen, other
	x evergreen tree: fir, cedar, pine, other
	shrubs
	grass
	pasture
	crop or grain
	wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
	water plants: water lily, eelgrass, milfoil, other
	X other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

Within Phase 2, there will be approximately 15.5 acres +/- of mostly evergreen trees and a small amount of hardwood trees removed from the proposed right-of-way. See SEPA section B) 3. a. 2. for acreage detail.

c. List threatened or endangered species known to be on or near the site.

#### None

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Best management practices (BMP's) to prevent erosion, developed for the Washington State RMAP program will be implemented to encourage erosion revegatation. BMP's such

as straw and grass seed will be placed on exposed soils and planting of native vegetation shall occur.

#### 5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, eagle, songbirds, other: Eagles, Marble Murrelet detection and Northern spotted owl site outside of SOSEA.

mammals: deer, bear, elk, beaver, other: fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

## Marble Murrelet and Northern spotted owl.

c. Is the site part of a migration route? If so, explain.

#### No

d. Proposed measures to preserve or enhance wildlife, if any:

We are impacting and removing a total of 0.61 acres of "F" buffer with our proposed road location. The mitigation plan below is to help offset those impacts.

#### Phase 2:

We will work with WDFW to develop a conceptual plan for the "F" water restoration, mitigating the Stream Adjacent Parallel Road (SAPR) located around station 130+00. This will include removing or plugging reachable culverts that exist within the old road bed and placing appropriate large woody debris within the "F" stream system to enhance fish habitat.

We will follow all requirements complying with the Washington Department of Fish and Wildlife (WDFW) and Washington Department of Natural Resources (WDNR).

Though not required by WDFW and WDNR, we will implement the following disturbance and avoidance measures in the SE1/4 of section 28, T16N, R07E or from station 138+00 to the end of the project in support of Mount Rainier National Park Service (MRNPS) suggestions:

# Marble Murrelet (MM):

Road construction and blasting operations will not be allowed during MM peak daily activities within .25 miles from the Mount Rainier National Park Boundary. The construction and blasting activities should only occur 2 hours after sunrise or 1 hour before sunset between March 15<sup>th</sup> and August 5<sup>th</sup> as requested by MRNPS.

#### Northern Spotted Owl (NSO):

We will make an effort to minimize blasting operations within a 0.7 mile radius from the known NSO site center previously identified by the MRNPS. We will minimize blasting operations between the dates of March 15<sup>th</sup> and August 5<sup>th</sup>, as requested by MRNPS. Minimize very early morning or late night road work and noise.

During road construction limit factors attracting corvids, such as exposed waste and trash, by keeping a clean work area.

We will minimize use of Jake Brakes and more than 5 minute idling within the 0.7 mile Northern spotted owl radius circle during nesting periods.

# 6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

# Does not apply

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

Does not apply.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Does not apply.

# 7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Very minor amounts of motor oil on road surface.

1) Describe special emergency services that might be required.

# None

2) Proposed measures to reduce or control environmental health hazards, if any:

We will follow fire, safety and forest practice and Dept of Ecology laws the currently exist.

#### b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Not applicable to the project.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

There will be noise generated from logging, trucking, blasting, dozing/excavating/loading, etc, during the anticipated hours of Monday thru Friday, 6:00 am to 6:00 pm from May until November except for the following:

We will implement the following disturbance and avoidance measures in the SE1/4 of section 28, T16N, R07E or from station 138+00 to the end of the project in support of Mount Rainier National Park Service (MRNPS) suggestions:

Marble Murrelet (MM):

Road construction and blasting operations will not be allowed during MM peak daily activities within .25 miles from the Mount Rainier National Park Boundary. The construction and blasting activities should only occur 2 hours after sunrise or 1 hour before sunset between March 15<sup>th</sup> and August 5<sup>th</sup> as requested by MRNPS.

# Northern Spotted Owl (NSO):

We will make an effort to minimize blasting operations within a 0.7 mile radius from the known NSO site center previously identified by the MRNPS. We will minimize blasting operations between the dates of March 15<sup>th</sup> and August 5<sup>th</sup>, as requested by MRNPS.

3) Proposed measures to reduce or control noise impacts, if any:

Refer to SEPA section B) 7. b. 2)

# 8. Land and shoreline use

a. What is the current use of the site and adjacent properties?

### Long term forestry

b. Has the site been used for agriculture? If so, describe.

No, the site has always been forestland.

c. Describe any structures on the site.

No structures exist on proposed road location.

d. Will any structures be demolished? If so, what?

If culvert structures are removed, they will removed from site and disposed of properly.

e. What is the current zoning classification of the site?

Long term forestry.

Does not apply.
j. Approximately how many people would the completed project displace?
Does not apply.
k. Proposed measures to avoid or reduce displacement impacts, if any:
Does not apply.
<ol> <li>Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:</li> <li>None needed.</li> </ol>
9. Housing
<ul> <li>a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.</li> <li>None.</li> </ul>
<ul> <li>b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.</li> <li>None.</li> </ul>
c. Proposed measures to reduce or control housing impacts, if any:
None needed.
10. Aesthetics
a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?
20

f. What is the current comprehensive plan designation of the site?

g. If applicable, what is the current shoreline master program designation of the site?

i. Approximately how many people would reside or work in the completed project?

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

Long term forestry.

Not applicable.

No.

Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?

Not visible from any urban source. The area will remain in long term forestry.

c. Proposed measures to reduce or control aesthetic impacts, if any:

To reduce visual impacts of neighboring Mount Rainier National Park, we will:

- Minimize land disturbance and tree removal in the road corridor; by adopting a narrow width for the road (1 lane with turnouts will lead to much less disturbance than 2 lanes).
- Minimize cut and fill needed to create the road prism by minimizing road width and locating the vertical alignment of the road on the shallowest gradient possible. Minimizing cut and fill will also minimize the height of cut and fill banks, thereby minimizing the amount of tree removal/scarring visible from the national park.
- Retain a tree buffer adjacent to the road corridor/prism to the greatest extent possible - trees retained on the slope below the road will help screen both the fill embankment and the interior cut slope.
  - Locate turnouts to take advantage of natural plateaus, saddles or benches, avoiding additional filling of the fill embankment, to the greatest extent possible - thereby reducing the amount of scarring visible.

# 11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Does not apply.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Does not apply.

c. What existing off-site sources of light or glare may affect your proposal?

Does not apply

d. Proposed measures to reduce or control light and glare impacts, if any:

Does not apply

# 12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

None

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None needed.

### 13. Historic and cultural preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

#### None

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

Historical Research and Associates (HRA) provided a Cultural Resources Assessment congruent with the Cultural Resource and Protection Management Plan (CRPMP) guidelines. The assessment was completed within the total right of way of the 25 road proposal. HRA archaeologists conducted a review of environmental, geological, ethnographic, and historical information prior to fieldwork for the proposed Hancock Road 25 Relocation Project, as well as an archival and literature review of past cultural resource inventories and recorded sites. HRA determined through this review that there was at least a moderate probability for precontact, ethnographic, and/or historic logging-related archaeological materials within portions of the area of potential effects (APE) displaying lower slope grades, especially towards its southeastern end.

No cultural materials older than 50 years were observed during the pedestrian survey or within 15 shovel probes excavated in the Project APE. As a result, HRA does not recommend further archaeological work in the Project APE.

c. Proposed measures to reduce or control impacts, if any:

No cultural materials older than 50 years were observed during the pedestrian survey or within 15 shovel probes excavated in the Project APE. As a result, HRA does not recommend further archaeological work in the Project APE. In the event that cultural materials or human remains are inadvertently encountered during construction of the project, Hancock will protect the location of the find from additional disturbance, and contact a professional archaeologist to examine the find. Hancock will also consult with Department of Archeology and Preservation (DAHP) and the Puyallup Tribe to evaluate and treat human remains or archaeological finds that appear to be eligible for listing in the National Register of Historic Places.

# 14. Transportation

 a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any. The construction project is accessed through private timberlands.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

# Does not apply

c. How many parking spaces would the completed project have? How many would the project eliminate?

# Does not apply

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

The 25 Road construction project (Phase 1 and Phase 2), consists of a nearly 3-mile long relocation of the road upslope from its previous location in the Puyallup River valley bottom. The proposed Phase 2 portion of the 25 road is 2.13 miles of the 3 mile total project. The construction project is on private land. See FPA for more details.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

# No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

On average over the entire timeline of the project, 2-4 trips/day.

g. Proposed measures to reduce or control transportation impacts, if any:

Minimize very early morning or late night road work and noise in the SE1/4 of section 28, T16N, R07E or from station 138+00 to the end of the project. These mitigations will accommodate marbled murrelet and Northern Spotted Owl habitats and site locations with the adjacent National Park boundaries.

# 15. Public services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No

b. Proposed measures to reduce or control direct impacts on public services, if any.
None needed.
16. Utilities
a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.
None.
<ul> <li>Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.</li> </ul>
None.
C. SIGNATURE
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.
Signature: A HEM AR ATVILORES TRUST  Date Submitted: 8/5/07

# D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

(do not use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of

activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.
1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?
Proposed measures to avoid or reduce such increases are:
2. How would the proposal be likely to affect plants, animals, fish, or marine life?
Proposed measures to protect or conserve plants, animals, fish, or marine life are:
3. How would the proposal be likely to deplete energy or natural resources?
Proposed measures to protect or conserve energy and natural resources are:
4. How would the proposal be likely to use or affect environmentally sensitive areas or

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.